



Case study

Oragene® facilitates a collaborative pharmacogenetic study project at Alfaisal University, Saudi Arabia



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Study overview

An individual's response to a drug is influenced by genetic polymorphisms which lead to varied function of the proteins involved in biotransformation and molecular transport across the cell membrane. A previous study¹ in breast cancer patients in Karachi showed significant differences in frequencies of polymorphic genes involved in metabolism and transport of chemotherapeutic drugs as compared to ethnic groups reported in the International HapMap Project database. In response, Dr. Afsar's team designed a cross-sectional study in healthy volunteers to establish the normal distribution of genotype and allele frequencies of various common polymorphic drug metabolizing enzymes and ABC transporters. The results would give a basis to understand the need for further pharmacogenetic research in this area.

DNA samples from approximately 200 participants would be collected from healthy adults spread evenly across genders, ethnicities and socioeconomic groups within Karachi, Pakistan.

Main challenges

Dr. Afsar knew from previous projects that recruiting healthy volunteers to donate blood to extract their DNA for research is not always easy. Healthy candidates may not perceive the benefit of participating in the study so it is important to make it easy for them. In addition, while blood collection provides an abundant source of high quality DNA, it requires centralized collection with a trained phlebotomist and convincing donors to visit the clinic and accept an invasive procedure. Dr. Afsar required a sample collection method that would be quick and easy for participants, while maintaining the high quantity, high quality DNA he required for downstream analysis (PCR, Genotyping, Pyrosequencing).



Oragene device prior to collection

Sample ready for transport, storage and processing



Some DNA Genotek products may not be available in all geographic regions, contact your sales representative for details.

